STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

Addendum 2 For Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-13-606 – Electric Vehicle Charging Infrastructure

CALIFORNIA
ENERGY COMMISSION

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Edmund G. Brown Jr., Governor

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CALIFORNIA ENERGY COMMISSION

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DISCLAIMER

ADDENDUM 2

The *Localized Health Impacts (LHI) Report for Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-13-606* was posted April 11, 2014 (CEC-600-2014-002).[1] The assessment approach used in this addendum is as written in CEC-600-2014-002. Addendum 1 was posted June 19, 2014, (CEC-600-2014-002-AD)[2] and corrected both the quantity and type of electric charges for the Adopt a Charger project (Application #9).

This addendum reports on and assesses the potential localized health impacts for six additional proposed electric vehicle charging station projects awarded under solicitation PON-13-606. The following are the addresses for the new chargers:

Table 1: Proposed Addresses for Chargers

Level 1 (L1), Level 2 (L2), Direct Current Fast Charger (DCFC)

Application #6 County of Sonoma, General Services Department	14 L1/L2 Destination chargers for 14 vehicles	Doran Beach Regional Park, 201 Doran Beach Road, Bodega Bay (1 L1/L2) Santa Rosa Veterans Hall and Sonoma County Fairgrounds, 1351 Maple Avenue, Santa Rosa (2 L1/L2) Sonoma County Airport, 2200 Airport Blvd, Santa Rosa (2 L1/L2) County Administration Center, 2300 County Center Drive, Santa Rosa (3 L1/L2) County Administration Center, 575 Administration Drive, Santa Rosa (2 L1/L2) Cloverdale Memorial Veterans Hall, 205 West First Street, Cloverdale (2 L1/L2) Guerneville Veterans Hall, 16255 First Street, Guerneville (1 L1/L2) County Administration Center, Intersection of Paulin Drive and Administration Drive, Santa Rosa (1 to 3 L1/L2)

1 Brecht, Patrick, Jennifer Allen, Lindsee Tanimoto. 2014. *Localized Health Impacts Report*. California Energy Commission, Fuels and Transportation Division. Publication Number: CEC-600-2011-002.
2 Brecht, Patrick, Jennifer Allen, Lindsee Tanimoto. 2014. *Localized Health Impacts Report*. California Energy Commission, Fuels and Transportation Division. Publication Number: CEC-600-2011-002-AD.

Application #48 Mendocino Land Trust, Inc.	20 L2 and 20 L1 Destination chargers 1 DCFC, 1 L2, and 2 L1 at 2 Corridor sites	<u>Destination</u> MacKerricher State Park,24100 MacKerricher Park Rd, Fort Bragg, 95437 Hendy Woods State Park, Philo, 95466 Van Damme State Park, 8001 N Hwy 1, Little River, 95456 Russian Gulch State Park, Hwy 1, Mendocino, 95460 Manchester State Park, Manchester, 95459 Greenwood State Beach, Elk, 95432 Westport Union Landing State Beach, Westport, 95488 Mendocino Headlands State Park, Mendocino, 95460 Caspar Headlands State Beach, Caspar, 95420 Point Cabrillo Light Station State Historic Park, 13800 Cabrillo Dr. Mendocino, CA 95460 <u>Corridor</u> (2 picked from the following 3 sites) 1) California Western Railroad Depot, Willits 2) Commerce Drive Cul-de-sac, Ukiah 3) Mendocino County Fairgrounds, Boonville
Application #38 Sacramento Area Council of Governments	4 DCFC Destination charging	Nugget Market, 1040 Florin Road, Sacramento, 95831 Nugget Market, 7101 Elk Grove Blvd., Elk Grove, 95758 Sacramento Natural Foods Co-Op, 1900 Alhambra Boulevard, Sacramento 95816
Application #36 Woodland Joint Unified School District	16 L2 Workplace/Destination charging	Maxwell Elementary JB-9562558 - 50 Ashley Avenue, Woodland, 95695 (2 L2) Plainfield Elementary JB-9561362 - 20450 County Road 97, Woodland, 95695 (2 L2) Tafoya Elementary JB-9571181 - 720 Homestead Way, Woodland, 95776 (2 L2) Whitehead Elementary JB-9562559 - 624 W Southwood Dr, Woodland, 95695 (2 L2) Zamora Elementary JB-9561361 - 1716 Cottonwood Street, Woodland, 95695 (2 L2) Woodland High School JB-956255 - 21 N West St, Woodland,

		95695 (4 L2) Woodland JUSD District Office JB-9562557 - 435 6th St, Woodland, 95695 (2 L2)
Application #1 Corridor Power, Inc.	10 DCFC Corridor chargers	561 South Vulcan Avenue, Encinitas, 92024
Application #19 County of Los Angeles	16 L2 Workplace/Destination charging	Department of Children and Family Services, 8300 South Vermont Avenue, Los Angeles, 90044

Source: Energy Commission staff analysis

Demographic Data

Staff collected information on ethnicity, age, and income for the cities/communities where the projects would be located. The information identifies those communities with higher minority populations, lower incomes, and highly sensitive groups based on age. For this assessment, staff identifies sensitive populations as individuals younger than 5 years of age and older than 65 years of age. The demographic data for the proposed project sites are provided in Table 2.

Table 2: Demographic Data for Cities

		Ethnicity					Age		
	Below Poverty Line	*Black*	*American Indian*	*Asian and/or Pacific Islander*	*Hispanic*	*White*	*<5 years*	*>65 years*	*Unemployment Rate*
Bodega Bay	**N/A**	**0.2**	**0.4**	**3.43**	**11.7**	**88**	**3.25**	**30**	**3.4**
Boonville*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Caspar*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Cloverdale	**5.9**	**0.6**	**1.8**	**1.2**	**32.8**	**62.5**	**6.6**	**16**	**9.5**
Elk*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Elk Grove	**9.3**	**11.2**	**0.6**	**26.3**	**18**	**38.1**	**7.2**	**8.3**	**5.5**
Encinitas	**9**	**0.6**	**0.5**	**3.9**	**13.7**	**78.8**	**5.4**	**12.8**	**4.1**
Fort Bragg	**19.9**	**0.7**	**2.2**	**0.2**	**31.8**	**61.7**	**7.4**	**13.7**	**6.6**
Guerneville	**N/A**	**0.7**	**1.5**	**1.3**	**12.2**	**86.6**	**3.51**	**13.5**	**12.2**
Little River*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Los Angeles	**21.2**	**9.6**	**0.7**	**11.4**	**48.5**	**28.7**	**6.6**	**10.5**	**9.8**
Manchester*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Mendocino*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**6.2**
Philo*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Sacramento	**20.2**	**14.6**	**1.1**	**19.7**	**26.9**	**34.5**	**7.5**	**10.6**	**9.6**
Santa Rosa	**13.2**	**2.4**	**1.7**	**5.2**	**28.6**	**59.7**	**6.8**	**13.5**	**4.9**

	Below Poverty Line	Ethnicity					Age		Unemployment Rate
		Black	*American Indian*	*Asian and/or Pacific Islander*	*Hispanic*	*White*	*<5 years*	*>65 years*	
Ukiah	**21.7**	**1.1**	**3.7**	**2.6**	**27.7**	**62.9**	**7.3**	**14.5**	**5.9**
Westport*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Willits*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Woodland	**11.6**	**1.5**	**1.3**	**6.2**	**47.4**	**42.1**	**7.9**	**10.9**	**8.1**

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133 and Age / ethnicity demographics, U.S. Department of Census: http://quickfacts.census.gov.

*Based on Mendocino County data

Petroleum Displaced

Staff collected information about estimated petroleum displacement, in equivalent gasoline gallons. The displacement results from electric vehicle miles traveled. Table 3 shows the amount of estimated gallons of gasoline displaced.

Table 3: Estimated Gasoline Gallons Displaced
Level 1 (L1), Level 2 (L2), Direct Current Fast Charger (DCFC)

Application Number	Applicant	Number and Type of Chargers	Vehicle Capacity (total number of vehicles that can charge at the same time)	Estimated Total Electric Vehicle Miles Per Year[3] (2015 vehicle population)	Estimated Total Gasoline Gallons Displaced[4] Per Year
Category I – Destination Charging, Corridor Charging, Workplace Charging With Public Access					
6	County of Sonoma, General Services Department	14 L1/L2 Destination	14	212,495	8,891
48	Mendocino Land Trust, Inc.	22 L1 Workplace/Destination 21 L2 Destination 1 DCFC Destination/Corridor	44	699,593	29,272
38	Sacramento Area Council of Governments	4 DCFC Destination	4	378,910	15,854
36	Woodland Joint Unified School District	16 L2 Workplace/Destination	16	242,851	10,161
1	Corridor Power	10 DCFC Corridor	10	947,276	39,635

3 Default is 365 days per year for destination, corridor, and public access workplace in Category I, unless specific restrictions were identified. Default is 251 days per year in Category II. Default is 365 days per year in Category III.

4 23.9 miles per gallon for equivalent gasoline vehicle displaced.

Application Number	Applicant	Number and Type of Chargers	Vehicle Capacity (total number of vehicles that can charge at the same time)	Estimated Total Electric Vehicle Miles Per Year[3] (2015 vehicle population)	Estimated Total Gasoline Gallons Displaced[4] Per Year
Category I – Destination Charging, Corridor Charging, Workplace Charging With Public Access					
19	County of Los Angeles	16 L2 Workplace/Destination	16	242,851	10,161

Location Analysis and Community Impacts

Based on the staff's assessment of the proposed projects, it is expected that none of the surrounding communities would be disproportionately impacted by the implementation of the projects. While overall air quality depends on a number of factors, the Energy Commission expects that air quality will improve over time where the chargers are proposed as they support growing numbers of electric vehicles.

Location analysis and community impacts are based on comparing the project location demographics to that of California. The 6 projects, composed of 20 proposed cities, with up to 32 sites, have 4 minority EJ indicators. The poverty EJ indicator exists in 13 locations, and 5 have unemployment EJ indicators. The age EJ indicator exists in 13 proposed cities. The proposed projects are expected to have a net benefit by reducing emissions and leading to improved air quality. Although Table 4 indicates cities with EJ indicators, the projects will not result in elevated risks. The proposed stations will reduce emissions, exposure, and health risks at local levels resulting in benefits.

Table 4: Cities With EJ Indicators
(Compared to the State of California)

Yellow highlighted areas indicate numbers that meet the definitions for EJ Indicators.

		Ethnicity					Age		
	Below Poverty Line	*Black*	*American Indian*	*Asian and/or Pacific Islander*	*Hispanic*	*White*	*<5 years*	*>65 years*	*Unemployment Rate (May 2014)*
California	**15.3**	**6.2**	**1.0**	**13.0**	**37.6**	**40.1**	**6.8**	**11.4**	**7.6**
Bodega Bay	**N/A**	**0.2**	**0.4**	**3.4**	**11.7**	**88**	**3.2**	**30**	**3.4**
Boonville*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Caspar*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**
Cloverdale	**5.9**	**0.6**	**1.8**	**1.2**	**32.8**	**62.5**	**6.6**	**16**	**9.5**
Elk*	**19.4**	**0.9**	**6.3**	**1.9**	**23**	**67.6**	**6**	**17.2**	**5.9**

	Below Poverty Line	Ethnicity					Age		Unemployment Rate (May 2014)
		Black	*American Indian*	*Asian and/or Pacific Islander*	*Hispanic*	*White*	*<5 years*	*>65 years*	
California	15.3	6.2	1.0	13.0	37.6	40.1	6.8	11.4	7.6
Elk Grove	9.3	11.2	0.6	26.3	18	38.1	7.2	8.3	5.5
Encinitas	9	0.6	0.5	3.9	13.7	78.8	5.4	12.8	4.1
Fort Bragg	19.9	0.7	2.2	0.2	31.8	61.7	7.4	13.7	6.6
Guerneville	N/A	0.7	1.5	1.3	12.2	86.6	3.5	13.5	12.2
Little River*	19.4	0.9	6.3	1.9	23	67.6	6	17.2	5.9
Los Angeles	21.2	9.6	0.7	11.4	48.5	28.7	6.6	10.5	9.8
Manchester*	19.4	0.9	6.3	1.9	23	67.6	6	17.2	5.9
Mendocino*	19.4	0.9	6.3	1.9	23	67.6	6	17.2	6.2
Philo*	19.4	0.9	6.3	1.9	23	67.6	6	17.2	5.9
Sacramento	20.2	14.6	1.1	19.7	26.9	34.5	7.5	10.6	9.6
Santa Rosa	13.2	2.4	1.7	5.2	28.6	59.7	6.8	13.5	4.9
Ukiah	21.7	1.1	3.7	2.6	27.7	62.9	7.3	14.5	5.9
Westport*	19.4	0.9	6.3	1.9	23	67.6	6	17.2	5.9
Willits*	19.4	0.9	6.3	1.9	23	67.6	6	17.2	5.9
Woodland	11.6	1.5	1.3	6.2	47.4	42.1	7.9	10.9	8.1

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133 and Age / ethnicity demographics, U.S. Department of Census: http://quickfacts.census.gov

*Based on Mendocino County data

Summary

The proposed projects would potentially result in up to 32 sites for electric vehicle charging. The sites will increase the widespread use of plug-in electric vehicles (PEVs). As more PEVs enter the market and begin to displace gasoline and diesel vehicles, tailpipe pollutants will decrease significantly. The anticipated impacts to the cities where these projects would be located are positive in terms of cleaner air and anticipated GHG reductions. Of the 20 cities listed and with the potential of 38 sites, the anticipated benefit from these projects for the people who live in these cities is highly likely, if not certain, to be positive.